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10/568,224

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Gab Kyu Hwang

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EXAMINER

CORMIER, DAVID G

ART UNIT

PAPER NUMBER

4132

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12/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/568,224	Applicant(s) HWANG, GAB KYU	
	Examiner DAVID CORMIER	Art Unit 4132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 March 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20060802</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figure 1, part 102. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1-20 are objected to because of the following informalities: Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. MPEP 608.01(m). Appropriate correction is required.

3. Claim 8 is objected to because of the following informalities: the word "fist" should be "first." Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Regarding Claim 9, the phrase "end sloped at a predetermined angle" renders the claim indefinite because there is no reference from which the end is angled. It is also unclear whether the end could be at any finite angle, including an angle of zero degrees.

7. Regarding Claim 10, the phrase "end that is sloped backward from bottom to top" renders the claim indefinite because it is unclear whether a specific frame of reference is being claimed.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 3, 8, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by *Ha* (KR 2003-44535).

10. Regarding Claims 1, 3, 8, and 20, *Ha* discloses a nozzle structure of a dishwasher that has a nozzle holder (See Figure 1, the upper portion of part 5), a nozzle

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rotatably coupled to the nozzle holder (Figure 1, the lower portion of part 5) (machine translation paragraph 23), and a gasket unit mounted on an end of the nozzle holder (See Figure 2, parts 14, 15, and the adjacent segment to the left of part 15) (machine translation paragraph 45). The gasket unit has a gasket support (Figure 2, the segment to the left of part 15) from which the flap support unit protrudes (Figure 2, the protrusion to the left of the gasket support segment), and a gasket fitted to the back of the gasket support (Figure 2, parts 14 and 15). The gasket unit also has first inlet port at an upper portion (Figure 2, part 11; machine translation paragraph 46) and a second inlet port under the first inlet port (Figure 2, part 12; machine translation paragraph 48), where the flap support unit is between the first and second inlet port (See Figure 2). The flap support unit rotatably supports a check valve flap from its sides, where the check valve flap selectively opens and closes the lower inlet port (See Figure 2). There is a water guide to which the other end of the nozzle holder is detachably coupled (Figure 2, part 8; machine translation paragraph 38).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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12. Claims 2, 11, 13, 14, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ha* (KR 2003-44535) in view of *Wilhelmstatter et al* (USPN 5,823,211).

13. Regarding Claims 2 and 11, *Ha* is relied upon as applied to Claims 1, 3, 8 and 20 above.

14. *Ha* does not expressly disclose that the nozzle structure further comprises a back cover mounted on a back of the gasket unit.

15. *Wilhelmstatter et al* discloses a detachable nozzle structure that includes a back cover ("centering plate") (Figure 1, part 15) that is mounted to a gasket unit ("flexible plate") (column 3, lines 46-51, 57-61; column 4, lines 3-9).

16. The nozzle structure of *Ha* does not have a back cover on the gasket unit. Because it is known in the art to include a back cover mounted on a gasket unit, such as in *Wilhelmstatter et al*, and the results of the combination would be predictable, namely, an effective closure of the nozzle structure, it would have been obvious to one of ordinary skill in the art at the time of the invention that the back cover of *Wilhelmstatter et al* could be combined with the nozzle structure of *Ha*.

17. Claims 13, 14, 18, and 19 are considered to be taught by *Ha* in view of *Wilhelmstatter et al*.

18. Regarding Claim 13, *Ha* discloses that the flap support unit supports each side of the check valve flap (*Ha* Figure 2, the top part of the check valve flap shows that the flap is supported along its length by the arms). Figures 2 and 3 of *Ha* show that the check valve flap can pivot about the support arms.

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19. Regarding Claim 14, Figure 3 of *Ha* shows that when water is introduced into the upper inlet port, the water pressure closes the check valve flap to the lower inlet port.

20. Regarding Claim 18, the phrase “wherein when washing water...under the influence of gravity” is a functional limitation and is deemed to be a latent property of the prior art since the prior art is substantially identical in composition and/or structure.

MPEP 2145 (II). The check valve flap of *Ha* in view of *Wilhelmstatter et al* would close the lower inlet port under the influence of gravity if there were no water flowing through the lower inlet port (*Ha* Figure 3).

21. Regarding Claim 19, where the limitation is that the upper inlet port and the lower inlet port are the same diameter, the water supply pipe of *Ha* fits into either the upper inlet port or lower inlet port which indicates the ports must be of the same diameter in order for both of them to fit properly with the water supply pipe (See Figure 2).

22. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ha* (KR 2003-44535) in view of *Chaffee* (USPN 6,237,621).

23. Regarding Claims 4 and 5, *Ha* is relied upon as applied to Claim 1 above. *Ha* discloses a flap support arm protruding from the gasket unit, which is attached to the check valve flap (See Figure 2, the arm is located between the gasket support unit and the valve hinge).

24. *Ha* does not expressly disclose that the flap support unit has a protrusion projected from an end of the flap support arm with a predetermined length in an inward direction.

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25. *Chaffee* discloses a self sealing valve which is hinged using two flap support arms with protrusions (“hinge pins”) (Figure 57, part 634) that protrude perpendicularly to the flap support arms in an inward direction at a predetermined length. The flap support arms face each other. The protrusions mate with the corresponding flap’s protrusion receiving portions (“seating holes”) (Figure 58, part 633) (column 15, lines 38-54).

26. The check valve of *Ha* does not specify that the valve hinge is formed using inwardly projected protrusions that mate to protrusion receiving portions of the flap. Because it is known in the art that the hinge of a valve can be formed using inwardly projecting protrusions on flap support arms that mate to protrusion receiving portions on a flap, and the result of the substitution would be predictable, namely, a rotatably supported valve, it would have been obvious to one of ordinary skill in the art at the time of the invention that the hinge of *Ha* could be substituted with the hinge of *Chaffee*. The resulting valve and hinge combination would yield the claimed invention.

27. Claims 6 and 7 are considered to be taught by *Ha* in view of *Chaffee*.

28. Regarding Claims 6 and 7, the valve and hinge combination of *Ha* in view of *Chaffee* would have the hinge at the upper end of the check valve flap, and therefore would have the protrusion receiving portions of the flap at the upper end of the check valve (*Ha* Figure 2). The protrusion receiving portions of the flap of *Ha* in view of *Chaffee* are integral to the flap, and they are circular in shape (See *Chaffee* Figure 58). The protrusion receiving portions of the flap are formed in a symmetric manner about the flap (See *Chaffee* Figure 58).

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29. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ha* (KR 2003-44535) in view of *Showers* (USPN 1,528,703).

30. Regarding Claims 9 and 10, *Ha* is relied upon as applied to Claim 8 above. *Ha* discloses that the second inlet port has a valve seating surface that the check valve flap selectively opens and closes (Figures 2 and 3).

31. *Ha* does not expressly disclose that the valve seating surface is sloped at a predetermined angle or that the valve seating surface is sloped backwardly from bottom to top.

32. *Showers* discloses a check valve where the valve seating surface is sloped at a predetermined angle (Figures 2 and 3). The seating surface is also shown to be sloped backward from bottom to top.

33. Because it is known in the art that the seating surface of a check valve can be formed to be at an angle, and the result of the substitution would be predictable, namely, an effective seal, it would have been obvious to one of ordinary skill in the art at the time of the invention that the valve seating surface of *Ha* could be substituted with the valve seating surface of *Showers*. The resulting valve and seating surface combination would yield the claimed invention.

34. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Ha* (KR 2003-44535), in view of *Wilhelmstatter et al* (USPN 5,823,211), further in view of *Coran et al* (4,271,049).

35. Regarding Claim 12, *Ha* in view of *Wilhelmstatter et al* is relied upon as applied to Claim 11 above.

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36. *Ha* in view of *Wilhelmstatter et al* does not expressly disclose that the gasket support and/or the check valve flap are/is made of rubber material.

37. *Coran et al* discloses that it is known to make gaskets, as well as various molded parts, from a rubber material (column 5, lines 53-56). The rubber material of *Coran et al* exhibits high tensile strength, high elongation, and low tension set (column 1, lines 43-45).

38. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify *Ha*, in view of *Wilhelmstatter et al*, as taught by *Coran et al*, and to make the gasket support and/or valve flap of the rubber material of *Coran et al*. One would have been motivated to do so in order to receive the expected benefits of having the parts exhibit high tensile strength, high elongation, and low tension set.

39. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ha* (KR 2003-44535), in view of *Wilhelmstatter et al* (USPN 5,823,211), in further view of *Chaffee* (USPN 6,237,621).

40. Regarding Claim 15, *Ha* in view of *Wilhelmstatter et al* is relied upon as applied to Claim 11 above. *Ha* in view of *Wilhelmstatter et al* discloses a flap support arm protruding from the gasket unit, which is attached to the check valve flap (*Ha* Figure 2, the arm is located between the gasket support unit and the valve hinge).

41. *Ha* in view of *Wilhelmstatter et al* does not expressly disclose that the flap support arms face each other at a predetermined distance.

42. *Chaffee* discloses a self sealing valve which is hinged using two flap support arms with protrusions ("hinge pins") (Figure 57, part 634) that protrude perpendicularly

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to the flap support arms in an inward direction at a predetermined length. The flap support arms face each other. The protrusions mate with the corresponding flap's protrusion receiving portions ("seating holes") (Figure 58, part 633) (column 15, lines 38-54).

43. The check valve of *Ha* in view of *Wilhelmstatter et al* does not specify that the valve hinge is formed in such a way that there are multiple flap support arms that face each other at a predetermined distance. Because it is known in the art that the hinge of a valve can be formed using inwardly projecting protrusions on flap support arms that mate to protrusion receiving portions on a flap, and the result of the substitution would be predictable, namely, a rotatably supported valve, it would have been obvious to one of ordinary skill in the art at the time of the invention that the hinge of *Ha* in view of *Wilhelmstatter et al* could be substituted with the hinge of *Chaffee*. The resulting valve and hinge combination with arms that face each other would yield the claimed invention.

44. Claims 16 and 17 are considered to be taught by *Ha*, in view of *Wilhelmstatter et al*, further in view of *Chaffee*.

45. Regarding Claim 16, the valve and hinge combination of *Ha*, in view of *Wilhelmstatter et al*, further in view of *Chaffee* has the flap support arm protruded from a front of the gasket support (*Ha* Figure 3) and has a protrusion inwardly projected from an end of a flap support arm in a direction perpendicular to the flap support arm (*Chaffee* Figure 57).

46. Regarding Claim 17, the check valve flap includes a protrusion receiving portion to receive the protrusion of the flap support unit (*Chaffee* Figure 58, part 633), and the

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protrusion supports each end of the protrusion receiving portion to allow pivoting of the check valve flap (*Chaffee* Figures 57-61; *Ha* Figures 2 and 3)

Conclusion

47. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID CORMIER whose telephone number is (571)270-7386. The examiner can normally be reached on Monday - Thursday 7:30 - 5:00.

48. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lavilla can be reached on (571)272-1539. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

49. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DGC/
D. Cormier
11/30/2008

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/Michael La Villa/

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Supervisory Patent Examiner, Art Unit 4132

7 December 2008